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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,271	01/11/2007	Alessio Corazza	6023-189US (BX2850M)	6570

570 7590 04/14/2010  
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2005 MARKET STREET, SUITE 2200  
PHILADELPHIA, PA 19103

EXAMINER
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WON, BUMSUK

ART UNIT	PAPER NUMBER
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2889

NOTIFICATION DATE	DELIVERY MODE
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04/14/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptomail@panitchlaw.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/595,271	<b>Applicant(s)</b> CORAZZA ET AL.	
	<b>Examiner</b> BUMSUK WON	<b>Art Unit</b> 2889	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

The amendment filed on 12/18/2009 has been entered.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Objections***

Claim 19 is objected to because of the following informalities: The claim does not have claim number. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gallitognotta (US 2003/0090202) in view of Buffito (US 5,961,750).<sup>1</sup>

Regarding claim 1, Gallitognotta discloses a cathode (11) comprising a metallic bearing part (12) at least partially coated with a layer of getter material (21).

Gallitognotta does not specifically disclose the alloys recited in the claim.

Buffito discloses in column 3, lines 24-33, a cathode for cold cathode lamps with integrated getter and with reduced work function value, the cathode comprising a metallic bearing part at least partially

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<sup>1</sup> Also, note Toia (US 2003/0007883) discloses getter material including alloys recited in the claim 1.

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coated with a layer of getter material, wherein the getter material is alloys comprising zirconium, cobalt and at least one component selected from yttrium, lanthanum and rare earths such that, in a ternary diagram of weight % compositions, the alloys are enclosed in a polygon defined by the following points: a) Zr 81% - Co 9% - A 10%; b) Zr 68% - Co 22% - A 10%; c) Zr 74% - Co 24% - A 2%; d) Zr 88% - Co 10% - A 2% wherein A is an element selected from yttrium, lanthanum and rare earths, and mixtures thereof, for the purpose of minimizing the environmental and safety risks associated with known nonevaporable getter alloys.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have an alloy including zirconium, cobalt and at least one component selected from yttrium, lanthanum and rare earths such that, in a ternary diagram of weight % compositions, the alloys are enclosed in a polygon defined by the following points: a) Zr 81% - Co 9% - A 10%; b) Zr 68% - Co 22% - A 10%; c) Zr 74% - Co 24% - A 2%; d) Zr 88% - Co 10% - A 2% wherein A is an element selected from yttrium, lanthanum and rare earths, and mixtures thereof as disclosed by Buffito in the device disclosed by Gallitognotta, for the purpose of minimizing the environmental and safety risks associated with known nonevaporable getter alloys.

Regarding claim 2, Gallitognotta discloses the metallic bearing part comprises nickel (paragraph 15).

Regarding claim 3, Gallitognotta discloses the metallic bearing part has a hollow cylinder shape (paragraph 12).

Regarding claim 4, Gallitognotta discloses the getter material layer is formed by cathodic deposition (paragraph 7).

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Regarding claim 5, Gallitognotta discloses the getter material layer has a thickness of less than 20 microns (paragraph 17).

Regarding claim 6, Gallitognotta discloses the metallic bearing part (12) has a shape of a hollow cylinder (paragraph 12), and wherein during the cathodic deposition (paragraph 7) the part is at least partially coated on one or both internal and external surfaces of the cylinder by masking with a suitably shaped support element (paragraph 21).

Regarding claim 7, Gallitognotta discloses the getter material layer is formed by electrophoretic deposition (paragraph 7).

Regarding claim 8, Gallitognotta discloses the metallic bearing part (12) has a shape of a hollow cylinder (paragraph 12), and wherein during the electrophoretic deposition (paragraph 7) the part is at least the partially coated on one or both internal and external surfaces of the cylinder by partial immersion in a liquid suspension containing getter particles used for the deposition (paragraph 22).

Regarding claim 9, Gallitognotta discloses the step of masking one of the surfaces to achieve the partial coating (paragraph 21).

Regarding claims 10-14, Buffito discloses in column 3, lines 24-33, the getter material comprising an alloy having zirconium, cobalt and at least one component selected from yttrium, lanthanum and rare earths, wherein the weight % of Zr is between 81-88%; the weight % of Zr is between 68-74%; the weight % of Co is between 9-10%; the weight % of Zr is between 22-24%; or the weight % of Zr is between 2-10%.<sup>2</sup>

Regarding claim 15, Gallitognotta in view of Buffito does not specifically disclose the alloy is aluminum yttrium alloy which has yttrium at least 70% by weight.

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<sup>2</sup> Also, the examiner notes that Amiotti (US 2003/0230793) discloses a getter material having an alloy having Zr, Co and Yttrium wherein there is 80.8 weight % of Zr, 14.2% of Co and 5% of yttrium.

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However, Gallitognotta discloses both aluminum and yttrium as candidates for the getter material (paragraphs 5 and 16), and that the work function of the cathode would decrease (paragraph 18 because the work function of these getter materials has lower work function than the cathode itself).

Therefore, one of ordinary skill in the art would have been led to use the alloy of aluminum yttrium as a matter of choice. Applicant has not disclosed that the configuration is for a particular unobvious purpose, produce an unexpected/significant result, or are otherwise critical, and it appears prima facie that the process would possess utility using another configuration.

Also, one of ordinary skill in the art would have been led to the recited ranges through routine experimentation and optimization. Applicant has not disclosed that the ranges are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical, and it appears prima facie that the process would possess utility using another dimension. Indeed, it has been held that mere ranges limitations are prima facie obvious absent a disclosure that the limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical.

Regarding claim 16, Gallitognotta in view of Buffito does not specifically disclose the alloy have yttrium at least 70% by weight.

However, one of ordinary skill in the art would have been led to the recited ranges through routine experimentation and optimization. Applicant has not disclosed that the ranges are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical, and it appears prima facie that the process would possess utility using another dimension. Indeed, it has been held that mere ranges limitations are prima facie obvious absent a disclosure that the limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical.

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Regarding claim 17, Gallitognota discloses the metallic bearing part (12) has a shape of a hollow cylinder (paragraph 12) with a closed end (13) and comprises a wire (15) fasted to the closed end.

Gallitognota in view of Buffito does not specifically disclose the wire is a molybdenum wire.

However, Gallitognota discloses the metallic bearing part is made of molybdenum (paragraph 15), for the purpose of having reliable metallic part inside the envelope of lamp because molybdenum has high melting point.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the wire being a molybdenum wire in the device disclosed by Gallitognota in view of Buffito, for the purpose of having reliable metallic part inside the envelope of lamp because molybdenum has high melting point.

Regarding claim 18, Gallitognota discloses the metallic bearing part (12) comprises nickel (paragraph 15) and has a shape of a hollow cylinder (paragraph 12) with a closed end (13) and comprises a wire (15) fasted to the closed end.

Gallitognota in view of Buffito does not specifically disclose the wire is a molybdenum wire.

However, Gallitognota discloses the metallic bearing part can be made of molybdenum (paragraph 15), for the purpose of having reliable metallic part inside the envelope of lamp because molybdenum has high melting point.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the wire being a molybdenum wire in the device disclosed by Gallitognota in view of Buffito, for the purpose of having reliable metallic part inside the envelope of lamp because molybdenum has high melting point.

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Regarding claim 19, Buffito discloses the getter material comprises the alloys comprising Zr, Co, and at least one component selected from yttrium, lanthanum and rare earths (column 3, lines 24-33). The reason for combining is same as claim 1.

***Contact information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BUMSUK WON whose telephone number is (571)272-2713. The examiner can normally be reached on Monday through Friday, 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minh Toan Ton can be reached on 571-272-2303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bumsuk Won/  
Primary Examiner, Art Unit 2889